

ABSTRACT

A system and method for creating polymer microparticles for use in drug delivery and other applications. The components of the exemplary system include a micro-stamp having micro-contours or micro-structures, a substrate, and a sacrificial layer of material coating the slide. The method includes the steps of coating the face of stamp with a thin layer of polymer to cover the micro-structures of the stamp, contacting the coated face of the stamp with the coated substrate to transfer polymer from the micro-structures of the stamp to the slide to create free-standing polymer microparticles, and dissolving the sacrificial layer covering the substrate to release the microparticles into solution. The microparticles fabricated by this method typically exhibit well-defined geometries that correspond to the micro-structures of the stamp.